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OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			DOTE, JANIS L	
			ART UNIT	PAPER NUMBER
			1756	

DATE MAILED: 09/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/674,358

Applicant(s)

SUGIYAMA ET AL.

Examiner

Janis L. Dote

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 June 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 10/1/03; 1/5/04; 6/17/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

1. The information disclosure statements, in particular the "List of Related Cases," filed on Oct. 1, 2003, and Dec. 30, 2003, do not comply with 37 CFR 1.98(a)(2)(iii), which requires legible copies of those portions of the copending US applications which caused them to be listed in the "List of Related Cases."

Since the submission appears to be bona fide, applicants are given ONE (1) MONTH from the date of this notice to supply the above mentioned omissions or corrections in the information disclosure statement. The examiner notes that if applicants have postcard receipts stating that the USPTO did receive copies of the documents, applicants should also provide a copy of the receipts so that there is no ambiguity in the record that applicants did provide copies of the missing documents.

NO EXTENSION OF THIS TIME LIMIT MAY BE GRANTED UNDER EITHER 37 CFR 1.136(a) OR (b). Failure to timely comply with this notice will result in the above mentioned information disclosure statement being placed in the application file with the noncomplying information not being considered. See 37 CFR 1.97(i).

2. The drawings are objected to because the specification at page 6, line 27, to page 7, line 1, and page 42, line 27, to

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page 43, line 6, refers to "Figure 1." However, the single drawing is not labeled as "Figure 1."

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The disclosure is objected to because of the following informalities:

The use of trademarks, e.g., Solsperse [sic: SOLSPERSE] at page 47, line 2, has been noted in this application. The trademarks should be capitalized wherever they appear and be accompanied by the generic terminology. This example is not exhaustive. Applicants should review the entire specification for compliance.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be

respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Appropriate correction is required.

4. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

The image forming apparatus recited in instant claim 14 lacks antecedent basis in the specification. See page 43, lines 7-26, of the specification, which discloses an image forming apparatus comprising the process cartridge disclosed at page 43, lines 1-6. The image forming apparatus recited in instant claim 14 is broader than the disclosed apparatus, because it includes apparatuses that do comprise the process cartridge disclosed at page 43, lines 1-6, of the instant specification.

5. Applicant is advised that should claim 1 be found allowable, claim 11 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that

they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim.

See MPEP § 706.03(k).

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(c) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at

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the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f), or (g) prior art under 35 U.S.C. 103(a).

9. Claim 15 is rejected under 35 U.S.C. 102(e) as being anticipated by US 6,549,733 B2 (Matsuguma).

Matsuguma teaches a detachable process cartridge comprising a photoreceptor 1, a charging roller 2, and a cleaning apparatus 14. Fig. 2, and col. 8, lines 55-59. The process cartridge disclosed by Matsuguma meets the components recited in instant claim 15.

The language "a member selected from the group consisting of chargers, image developers and cleaners" does not require the presence of an image developer comprising the particular toner recited in instant claim 15.

10. Claim 14 is rejected under 35 U.S.C. 102(e) as being anticipated by Matsuguma.

Matsuguma discloses an image forming apparatus comprising a charging roller 2, a photoreceptor 1; a laser scanner 4 as the image-wise irradiator; a developing unit 7; a transfer unit 13; and a fixing unit 15. See Fig. 1, and col. 7, line 57, to col. 8, line 56. The components in the apparatus disclosed by Matsuguma meet the structural limitations recited in the instant claims.

Matsuguma does not exemplify the particular toner recited in the instant claims. However, the instant claims do not positively recite that the apparatus comprises the particular toner. Instant claim 15 merely recites "an image developer for developing the electrostatic latent image with a toner according to claim 1 to form a toner image on the photoreceptor" (emphasis added). The particular toner recited in the instant claim does not distinguish the structural elements in the instantly claimed apparatus from those in the apparatus in Matsuguma. A material (i.e., the toner) worked upon by the apparatus does not limit the apparatus claims. "Inclusion of material or article worked upon by a structure being claimed does not impart patentability to the claims." See MPEP 2115. It is well settled, as stated in Ex parte Masham, 2 USPQ2d 1647, 1648 (Bd. Pat. App. & Int.



1987) that "a recitation with respect to the material intended to be worked upon by a claimed apparatus does not impose any structural limitations upon the claimed apparatus which differentiates it from the prior art apparatus satisfying the structural limitations of that claimed." Accordingly, the particular toner recited in the instant claim does not distinguish the instantly claimed apparatus from the apparatus disclosed by Matsuguma.

11. US 2003/0104297 A1 (Matsuda) was published on Jun. 5, 2003, and has an effective filing date of May 31, 2002. The inventive entity of Matsuda is not the same as the instant application. Accordingly, Matsuda qualifies as prior art under 35 U.S.C. 102(a) and under 35 U.S.C. 102(e).

12. Claims 1, 2, and 8-14 are rejected under 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Matsuda, as evidenced by US 6,194,118 B1 (Miyamoto).

Claims 1, 2, 5, and 8-14 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Matsuda, as evidenced by Miyamoto.

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Matsuda discloses a developer comprising a carrier and a toner comprising a binder resin comprising a urea-modified polyester resin and an unmodified polyester resin, low molecular weight polyester 1, a colorant, and carnauba wax. See toner 13 in paragraphs 0125-0150, and example 13 in paragraph 0165. The toner has a number average particle size ( $D_n$ ) of  $5.52 \mu\text{m}$  and a volume average particle size ( $D_v$ ) of  $6.03 \mu\text{m}$ , a ratio of  $D_v/D_n$  of 1.09, and an average circularity of 0.97. See paragraph 0150 and Table 2, toner 13. The  $D_n$ ,  $D_v$ , and ratio  $D_v/D_n$  are within the ranges recited in instant claim 8. The circularity of 0.97 is within the range of 0.94 to 1.00 recited in instant claim 9.

The toner is obtained by: (1) preparing a master batch comprising the colorant and a polyester resin; (2) preparing material solution 1 comprising the carnauba wax and the low molecular weight polyester 1; (3) forming a pigment-wax dispersion by mixing the master batch of step (1), the material solution 1, and additional low molecular weight polyester 1; (4) mixing the pigment-wax dispersion of step (3), a prepolymer comprising isocyanate groups that is capable of forming a urea-modified polyester, and ketimine compound 1 as the crosslinker and/or elongation agent; (5) dispersing the mixture of step (4) in an aqueous medium comprising resin particles having an average particle size of  $0.1 \mu\text{m}$  (i.e., 100 nm), while

reacting ketimine compound 1 with the prepolymer to form toner particles; and (6) washing the toner particles of step (5). The average particle size of the resin particles is within the range of 5 to 500 nm recited in instant claim 10. The amount of wax is 5.5 wt% based on the amount of the colorant. The amounts of the wax and colorant were determined from the information disclosed in toner 13. The amount of 5.5 wt% is within the range of 1 to 30 wt% based on the total weight of colorant recited in instant claim 2.

Matsuda further discloses an image forming apparatus comprising a photoreceptor 1, a charger 2, an exposure means 3, a developing means 4, a transfer means 5, and a fixing means 10. See Fig. 1 and paragraphs 0086-0088. The developing means 4 comprises a tank 40 which contains the developer described above. Paragraphs 0089 and 0165.

Instant claims 1, 2, 5, and 8-14 are written in product-by-process format. The method disclosed by Matsuda meets the process steps recited in the instant claims, but for the master batch comprising a pigment dispersant. However, as discussed above, Matsuda discloses that its toner comprises carnauba wax. It is well-known in the art that waxes can serve as pigment dispersants. Miyamoto, col. 8, lines 56-67. Thus, the toner disclosed by Matsuda meets the compositional limitations recited

in the instant claims. Because Matsuda's toner meets the compositional limitations recited in the instant claims, it appears that the toner disclosed by Matsuda is the same or substantially the same as the toner made by the process recited in the instant claims. The burden is on applicants to prove otherwise. In re Marosi, 218 USPQ 289 (Fed. Cir. 1983); In re Thorpe, 227 USPQ 964 (Fed. Cir. 1985); MPEP 2113.

13. Claims 1-13 are rejected under 35 U.S.C. 103(a) as unpatentable over WO 02/056116 (Emoto), as evidenced by US 2004/0053155 A1 (US'155), combined with US 6,037,090 (Tanaka). The US published application, filed under 35 U.S.C. 371, is the national stage of the WO application of Emoto, and therefore must have been an accurate English-language translation of the WO application of Emoto. See US'155 for cites.

Emoto discloses a toner comprising a binder resin comprising a urea-modified polyester resin and an unmodified polyester resin, copper phthalocyanine blue pigment, and rice wax. US'155, paragraph 0015, and example 1 at paragraphs 0118 to 0129. The toner has a number average particle size (Dn) of 4.8  $\mu\text{m}$  and a volume average particle size (Dv) of 5.5  $\mu\text{m}$ , a ratio of Dv/Dn of 1.15, and an average circularity of 0.94.

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US'155, Table 2, example 1. The Dn, Dv, and ratio Dv/Dn are within the ranges recited in instant claim 8. The circularity of 0.94 is within the range of 0.94 to 1.00 recited in instant claim 9. The weight ratio of the urea-modified polyester to unmodified polyester resin is 0.26, which is within the range of 5/95 to 25/75 (i.e., 0.053 to 0.33) recited in instant claim 5. The weight ratio was determined from the information disclosed in example 1. The dispersed pigment in the toner has a number average particle size of 0.4  $\mu\text{m}$ , and comprises 3.5 % by number of particles having a number average particle size of 0.7  $\mu\text{m}$  or more. The average particle size and particle size distribution of the colorant meet the colorant limitations recited in instant claim 4. Emoto discloses that the above toner may be used in a two-component developer comprising a carrier. US'155, paragraph 0116. Emoto discloses a commercially available copier comprising the toner described above. US'155, paragraph 0165. Thus, Emoto discloses a container comprising the toner, as recited in instant claim 13. Emoto discloses an image forming method comprising the steps of charging a photoconductor, exposing the photoconductor to light to form an electrostatic latent image, developing the latent image with a developer, transferring the toner image to receiving member, e.g., paper, and fixing the toner image to the receiving member. US'155,

paragraphs 0002 and 0165.

According to Emoto, the toner provides high quality images excellent in transparency and chroma (brightness, gloss), and has excellent powder fluidity, anti-offset properties, charge stability, and transferability. US'155, paragraph 0012, and Table 2, example 1.

The toner binder resin has a glass transition temperature (Tg) of 55°C, which is within the range of 40 to 70°C recited in instant claim 7. US'155, Table 1. Emoto does not disclose that its toner has a Tg in the range of 40 to 70°C as recited in instant claim 7. However, because the Emoto toner in example 1 comprises 84 wt% of the binder resin and the binder resin has a Tg of 55°C, it is reasonable to presume that the toner has a Tg within the range recited in instant claim 7. The burden is on applicants to prove otherwise. In re Fitzgerald, 205 USPQ 594 (CCPA 1980).

The Emoto toner in example 1 is obtained by: (1) preparing an oil phase solution by dissolving a prepolymer comprising isocyanate groups that is capable of forming a urea-modified polyester and the un-modified polyester resin in a solvent, dispersing the colorant, and dispersing or dissolving the rice wax; (2) "pulverizing" the oil phase solution of step (1); (3) dispersing the pulverized oil phase in an aqueous solution

comprising a surfactant and inorganic fine particles; (4) adding ketimine compound 1 as the crosslinker and elongation agent to the dispersion of step (3) and reacting ketimine compound 1 with the prepolymer to form the urea-modified polyester; (5) removing the solvent from the mixture of step (4); and (6) washing the mixture of step (5) to obtain toner particles. See US'155, example 1.

Emoto does not exemplify the use of an aqueous solution comprising resin fine particles as recited in instant claim 1. However, Emoto teaches that the aqueous solution may comprise, as a dispersing agent, polymer fine particles which are insoluble or hardly soluble in water. US'155, paragraph 0102. According to Emoto, the use of polymer fine particles provides toner particles having a sharp particle size distribution. US'155, paragraph 0095 and 0103. Emoto teaches that the volume average particle size of the polymer fine particles is controlled to obtain a toner having a desired particle size. According to Emoto, when a toner having a volume average particle size of 5  $\mu\text{m}$  is desired, the volume average particle size of the polymer fine particles ranges from 0.0025 to 1.5  $\mu\text{m}$ , preferably in the range of 0.005 to 1.0  $\mu\text{m}$  (i.e., 5 to 1000 nm). US'155, paragraph 0104. As discussed above, the volume average

particle size of the toner in example 1 of Emoto is 5.5  $\mu\text{m}$ . The range of 5 to 1000 nm overlaps the range of 5 to 500 nm recited in instant claim 10. The prior art recognizes that the volume average particle size of the polymer fine particles is a result-effective variable, variation of which is presumably within the skill of the ordinary worker in the art.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of Emoto, to use an aqueous solution comprising, as a dispersing agent, polymer fine particles, as taught by Emoto, where the polymer fine particles have a volume average particle size that is within the particle size range recited in instant claim 10, as the aqueous dispersion solution in the method disclosed in example 1 of Emoto, because that person would have had a reasonable expectation of successfully obtaining a toner having the desired volume average particle size of 5.5  $\mu\text{m}$ , ratio of  $D_v/D_n$  of 1.15, and the properties disclosed by Emoto.

Emoto does not disclose the use of a pigment dispersion or a pigment dispersion auxiliary agent as recited in instant claims 1 and 3, respectively.

Tanaka teaches forming a pigment dispersion solution by mixing 20 parts by weight of a pigment, 4 parts by weight of a dispersant polycaprolactone having a particular acid value and



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amine value, and 1 part by weight of a pigment dispersant SOLSPERSE 5000 in 75 parts by weight of the solvent ethyl acetate; and dissolving or dispersing the mixture. Col. 12, lines 28-38. The polycaprolactone amount of 20 wt% based on the weight of the pigment is within the range of 1 to 30 wt% based on the weight of the colorant recited in instant claim 2. Tanaka teaches that the resulting pigment dispersion solution may be used in a "so-called" dissolution suspension process for making a toner comprising the steps of: dissolving or dispersing into an organic solvent the binder resin and the pigment dispersion solution to prepare an oily phase, and dispersing the oily phase in an aqueous solution to form toner particles. Col. 3, line 65, to col. 4, line 9, and example 1 at col. 12. The steps in the dissolution suspension process disclosed by Tanaka are similar to steps disclosed in the method of Emoto. According to Tanaka, the use of the dispersant polycaprolactone improves the dispersibility and dispersion stability of the pigment. Col. 3, lines 30-35. The color developability and the toner and light transmittance through OHP (overhead projection) transparencies are said to be improved. The pigment is said to be stably dispersed in the toner for a long time. Col. 4, lines 51-58. Tanaka further discloses that the fine particles of the pigment are uniformly dispersed in the toner particles

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and the amount of the pigment appearing on the surface of the toner particles is reduced "because of the difference in affinity between the colorant and the oil phase components, and between the colorant and the aqueous solution." Col. 4, lines 59-67.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of Tanaka, to use the pigment dispersion solution as taught by Tanaka, comprising the dispersant polycaprolactone in the amount of 20 wt% based on the amount of the pigment, pigment dispersant SOLSPERSE, and the copper blue phthalocyanine pigment in the step of forming the oil phase in the method of making a toner rendered obvious over the teachings in Emoto, because that person would have had a reasonable expectation of successfully obtaining a toner and an image forming method using said toner that provide images with improved color developability and light transmittance through OHP transparencies, wherein the pigment is stably dispersed in the toner for a long time.

Instant claims 1-13 are written in product-by-process format. The combined teachings of Emoto and Tanaka do not make a toner as recited in the instant claims. However, as discussed above, the toner rendered obvious over the combined teachings of Emoto and Tanaka meets the compositional limitations recited in

the instant claims. Thus, it appears that the toner is the same or substantially the same as the toners made by the process recited in the instant claims. The burden is on applicants to prove otherwise. Marosi, supra; Thorpe, supra; MPEP 2113.

14. Claims 1, 2, and 4-13 are rejected under 35 U.S.C. 103(a) as unpatentable over Emoto as evidenced by US'155, combined with Japanese Patent 11-237758 (JP'758). See the Japanese Patent Office (JPO) machine-assisted English-language translation of JP'758 for cites.

Emoto discloses a toner comprising a binder resin comprising a urea-modified polyester resin and an unmodified polyester resin, a pigment, and carnauba wax. US'155, paragraph 0015, and example 2 at paragraphs 0131 to 0137. The toner has a number average particle size ( $D_n$ ) of  $6.2 \mu\text{m}$  and a volume average particle size ( $D_v$ ) of  $6.8 \mu\text{m}$ , a ratio of  $D_v/D_n$  of 1.1, and an average circularity of 0.95. US'155, Table 2, example 2. The  $D_n$ ,  $D_v$ , and ratio  $D_v/D_n$  are within the ranges recited in instant claim 8. The circularity of 0.94 is within the range of 0.94 to 1.00 recited in instant claim 9. The weight ratio of the urea-modified polyester to unmodified polyester resin is 0.31, which is within the range of 5/95 to 25/75 (i.e., 0.053 to 0.33) recited in instant claim 5. The

weight ratio was determined from the information disclosed in example 2. The dispersed pigment in the toner has a number average particle size of 0.5  $\mu\text{m}$ , and comprises 1.0 % by number of particles having a number average particle size of 0.7  $\mu\text{m}$  or more. The average particle size and particle size distribution of the colorant meet the colorant limitations recited in instant claim 4. Emoto discloses that the above toner may be used in a two-component developer comprising a carrier. US'155, paragraph 0116. Emoto discloses a commercially available copier comprising the toner described above. US'155, paragraph 0165. Thus, Emoto discloses a container comprising the toner, as recited in instant claim 13. Emoto discloses an image forming method comprising the steps of charging a photoconductor, exposing the photoconductor to light to form an electrostatic latent image, developing the latent image with a developer, transferring the toner image to receiving member, e.g., paper, and fixing the toner image to the receiving member. US'155, paragraphs 0002 and 0165. According to Emoto, the toner provides high quality images excellent in transparency and chroma (brightness, gloss), and has excellent powder fluidity, anti-offset properties, charge stability, and transferability. US'155, paragraph 0012, and Table 2, example 1.

The toner binder resin has a glass transition temperature

(Tg) of 60°C, which is within the range of 40 to 70°C recited in instant claim 7. US'155, Table 1. Emoto does not disclose that its toner has a Tg in the range of 40 to 70°C as recited in instant claim 7. However, because the Emoto toner in example 2 comprises 76 wt% of the binder resin and the binder resin has a Tg of 60°C, it is reasonable to presume that the toner has a Tg within the range recited in instant claim 7. The burden is on applicants to prove otherwise. Fitzgerald, supra.

The Emoto toner in example 2 is obtained by: (1) preparing a colorant master batch using a water-containing pigment cake and a polyester resin; (2) forming an oil phase solution by dissolving a prepolymer comprising isocyanate groups that is capable of forming a urea-modified polyester and the un-modified polyester resin in a solvent, dispersing the colorant master batch of step (1), and dispersing or dissolving the carnauba wax; (3) "pulverizing" the oil phase solution of step (2); (4) dispersing the pulverized oil phase in an aqueous solution comprising a surfactant and inorganic fine particles; (5) adding ketimine compound 1 as the crosslinker and elongation agent to the dispersion of step (4) and reacting ketimine compound 1 with the prepolymer to form the urea-modified polyester; (6) removing the solvent from the mixture of step (5); and (7) washing the

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mixture of step (6) to obtain toner particles. See US'155, example 2.

Emoto does not exemplify the use of an aqueous solution comprising resin fine particles as recited in instant claim 1. However, Emoto teaches that the aqueous solution may comprise, as a dispersing agent, polymer fine particles which are insoluble or hardly soluble in water. The discussion of the polymer fine particles in paragraph 13 above is incorporated herein by reference.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of Emoto, to use an aqueous solution comprising, as a dispersing agent, polymer fine particles, as taught by Emoto, where the polymer fine particles have a volume average particle size that is within the particle size range recited in instant claim 10, as the aqueous dispersion solution in the method disclosed in example 2 of Emoto, because that person would have had a reasonable expectation of successfully obtaining a toner having the desired volume average particle size of  $6.8 \mu\text{m}$ , ratio of  $D_v/D_n$  of 1.1, and the properties disclosed by Emoto.

Emoto does not disclose the use of a pigment dispersion as recited in instant claim 1.

JP'758 teaches dissolving an organic pigment and a pigment dispersant represented by formula (a2) shown in Table 1 in sulfuric acid, adding the acid solution into water to convert the pigment and the dispersant into minute precipitates, and repeating filtration and rinsing with water to form an aqueous paste having a solid content of 30.0 wt%. The aqueous paste is further processed in a flushing method with a resin to form a resin coated pigment, i.e., a colorant master batch. Translation, Table 1 at page 5 and formula (A) at page 6, and paragraphs 0043-0044. The pigment dispersant a2 can be used in an amount of 0.01 to 30 parts by weight per 100 parts by weight of the pigment. Translation, paragraph 0031. The range of 0.01 to 30 parts by weight per 100 parts by weight of the pigment overlaps the range of 1 to 30 wt% based on the amount of colorant recited in instant claim 2. According to JP'758, when the resulting aqueous pigment paste is used as the colorant in a toner, the resulting toner provides clear images with sufficient color reproduction performance and is capable of sufficient color development performance at the time of forming a full color image. The pigment in the toner is observed to have "good distributed condition without condensation." Translation, paragraphs 0012 and 0059.

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It would have been obvious for a person having ordinary skill in the art, in view of the teachings of JP'758, to use the aqueous pigment paste taught by JP'758 as the water-containing pigment cake in the step of forming the colorant master batch in the method of making a toner rendered obvious over the teachings in Emoto, because that person would have had a reasonable expectation of successfully obtaining a toner and an image forming method using said toner that provide sharp clean color images with sufficient color reproduction performance.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janis L. Dote whose telephone number is (571) 272-1382. The examiner can normally be reached Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Mark Huff, can be reached on (571) 272-1385. The central fax phone number is (703) 872-9306.

Any inquiry of papers not received regarding this communication or earlier communications should be directed to Supervisory Application Examiner Ms. Claudia Sullivan, whose telephone number is (571) 272-1052.

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Sep. 25, 2004

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